

# WHAT POLLUTION LEGISLATION IS SPECIFIC TO LNG/LPG CARGO?



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There are a growing number of liquefied natural gas (LNG) and liquefied petroleum gas (LPG) ships on the high seas, due to the increasing demand for these products around the world, and more recently, their use by ships as a fuel source in preference to fuel oil. This article looks at the pollution legislation that applies to the carriage of LNG and LPG products.

LNG is carried as a liquid at  $-162^{\circ}\text{C}$  and LPG, which includes propane and butane, is carried at  $-45^{\circ}\text{C}$  and  $-0.5^{\circ}\text{C}$  respectively. An accidental discharge would vaporise at ambient temperatures and therefore it would be unlikely to contaminate the marine environment. However, an accidental discharge could be hazardous due to the risk of asphyxiation, cryogenic burns, structural damage, fire and explosion. In addition, the air emissions from the venting or burning of boil-off gas (BOG) for the engines could be considered to be an air pollutant.

As with all pollution legislation, those specific to LNG/LPG cargo can be summarised under the conventions concerning prevention, intervention and compensation. We will consider both the international legislation applicable and then look at relevant US legislation.

## PREVENTION

- The International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), Annex VI, concerns the control of air pollution from ships. The revised Annex VI has reduced the admissible emissions of nitrogen oxides (NOx) from marine diesel engines, sulphur oxides (SOx) from ships and created designated Emission Control Areas (ECAs). Annex VI would apply to the venting or burning of LNG BOG for propulsion, either in a dual-fuel diesel engine or boiler, and also the burning of BOG in the ship's incinerator(s). Within the EU, shipowners have to ensure that SOx emissions comply with Council Directive 2005/33/EC. This Directive requires ships within EU ports to burn fuel containing less than 0.1% sulphur content (which is currently lower than the 1.0% requirement under MARPOL Annex VI). SIGTTO ([www.sigtto.org](http://www.sigtto.org)) has recently published articles on the impact of the Directive on steam-powered LNG ships. Venting of BOG would only occur in emergencies (which is admissible under Annex VI), as normally the BOG would either be used to fuel the engines, be reliquefied, burnt in the gas combustion unit or removed via the vapour return lines (when loading/discharging).

## INTERVENTION

- The Protocol Relating to Intervention on the High Seas in Cases of Pollution by Substances other than Oil 1973 (the Intervention Protocol) applies if there is a casualty involving a ship carrying LNG/LPG. The Intervention Protocol gives coastal states the right to intervene to prevent, mitigate or eliminate the danger of 'substances other than oil', which includes LNG and LPG. Before taking such measures, the coastal state is to consult with other states affected, with independent IMO-approved experts and the measures must be proportionate. The cost of such measures can usually be recovered by the governmental authority against the shipowner under national law.
- The Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances 2000 (OPRC-HNS Protocol) applies to incidents involving hazardous and noxious substances, which include LNG/LPG. The OPRC-HNS Protocol is designed to facilitate international co-operation and mutual assistance between States when preparing and responding to HNS incidents. It requires operators of ships, ports and facilities handling HNS to have emergency plans for dealing with an HNS incident.

## COMPENSATION

- Currently, there is no international compensation convention dealing with carriage of LNG/LPG. Reference should be made to the applicable national laws.
- The compensation regime applicable to incidents concerning the carriage of LNG/LPG will be the Convention on Liability and Compensation for Damage in connection with the Carriage of Hazardous and Noxious Substances by Sea 1996, or HNS

Convention. This convention is not yet in force; however, it will entitle compensation for personal injuries and loss or damage to property and the environment caused by incidents involving LNG/LPG. It is modelled on the CLC and Fund Convention. Thus the shipowner (and his P&I Club) will be strictly liable, up to an amount determined by the gross tonnage of the ship, to pay the first tier of compensation. The second tier comes from a fund levied on cargo receivers in all Contracting States on a post-event basis. The HNS Convention will only come into force when ratified by 12 Flag States that have minimum ship and cargo tonnage thresholds. So far, not enough states with the minimum thresholds have ratified the Convention; however, it is hoped that the adoption of the Protocol to the HNS Convention in April 2010 has now addressed the practical problems that had prevented many states from ratifying the original Convention.

- Until the 2010 HNS Protocol is adopted, compensation for loss/damage caused by LNG/LPG spills should be limited by the 1976 Limitation of Liability for Maritime Claims (LLMC) and its 1996 Protocol (if applicable). However, members will be aware that most LNG/LPG terminals insist upon limiting/excluding their liability under their terminal conditions of use contracts (COU). Prior to entering these terminal COUs, members should pass these to the club for review to ensure that the contract or indemnities fall within the scope of poolable cover.

#### US LAW

- LNG and LPG products are not considered to be hazardous substances under any United States environmental statutes. Therefore liability for accidental discharges of LNG and LPG is governed by state law or general principles of maritime law.
- The definition of a hazardous substance in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), excludes LNG/LPG products. CERCLA includes an express exclusion for LNG, as well as the so-called petroleum exclusion, which covers LPG. The Federal Water Pollution Control Act (FWPCA), as amended by the Oil Pollution Act of 1990 (OPA), regulates discharges of oil into the marine environment. While the FWPCA does not define 'oil', a long-standing 1995 interpretation by the US Coast Guard determined that neither LNG or LPG is an 'oil' under the FWPCA. Moreover, the Clean Air Act, as amended in 1990, regulates the accidental release of certain hazardous substances. Subsequent to the 1990 amendments, Congress amended the accidental release prevention programme to exclude most fuels. Furthermore, that programme only applies to stationary sources, and not to accidental release from ships.

- Although LNG and LPG discharges and releases are not regulated under CERCLA or the FWPCA because these products are not oil or hazardous substances, ships carrying LNG and LPG are subject to the Coast Guard regulations applicable to tank vessels carrying flammable liquids, and the construction and operation standards for vessels transporting liquefied gases. Violation of any of these regulations could result in liability under the common law doctrine of negligence. Under this doctrine, violation of a regulation intended to protect a claimant from harm, establishes a presumption of negligence.
- While LNG and LPG are not named as hazardous substances under US federal law, they may be listed as such under state environmental statutes. For example, the Washington State Water Pollution Control Law prohibits pollution of state waters and defines 'pollution' broadly to include contamination likely to create a nuisance or render the waters harmful, detrimental or injurious to the public health, safety, or welfare. The discharge of any substance, including LNG and LPG, would fall within the statute if the discharge causes any of the aforementioned problems. Members should review the environmental laws of those states where their ships operate.
- Finally, liability for damages caused by discharges of LNG and LPG may arise through negligence causes of action under general maritime law of the US and state common law.

#### CONCLUSION

The current pollution legislation specifically applicable to LNG/LPG cargo (which is in force) is restricted to the MARPOL Annex VI/Council Directive 2005/33/EC concerning air emissions from the burning of LNG in dual-fuel engines, and the Intervention Protocol/OPRC-HNS Protocol allowing coastal states to intervene in an LNG/LPG spill and for emergency plans to be carried onboard such ships.

Until the 2010 HNS Protocol is adopted, the 1976 LLMC and its 1996 Protocol (if applicable) remain the regime under which shipowners may seek to limit their liability for LNG/LPG-related incidents, subject always to any exclusions under domestic legislation or third-party contracts.

This is a brief summary of the legislation that may be applicable to the carriage of LNG and LPG. Should further information be required on any of the legislation referred to, please do not hesitate to speak with your usual point of contact at the club or Philip Stephenson.

